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Tables relating to the State of the POPULATION of GREAT BRITAIN at the Census of 1851, with a Comparative View, at the different Ages, of the Population of FRANCE; also a Comparative Return of BIRTHS and DEATHS, 1838-1854. By CHARLES M. WILlich, Actuary, University Life Assurance Society. With some Remarks, by way of Preface, by E. T. SCARGILL, Assistant-Secretary.

[Read before the Statistical Society, 15th June, 1858.]

THE Census Returns of 1851, for Great Britain, are so complete, as regards both the sex and the respective ages of the then existing population, that I have considered it interesting to tabulate the results in quinquennial periods, and to calculate the per centage, both with reference to the whole of the population, and the Male and Female portion. I have also divided the *Males* into three classes, of Unmarried, Married, and Widowers; and the Females also into three classes, of Unmarried, Married, and Widows. I have so arranged the annexed Tables, that the per centage may be seen, as well as the numbers existing in each 100,000 of the Class; also the proportion of the Classes of Males and Females in each 100 or 100,000 of the population.

The announcement made some time ago that in France, in the year 1854, the *deaths* had exceeded the *births* by 69,318, induced me to draw out a comparative statement of the Populations of Great Britain and France, in order that the effects of such decrease might be traced in the state of the population classed quinquennially.

For the facts with reference to the French population, I am indebted to *M. Mathieu*, who has given very interesting details in the "*Annuaire*" for this year, published by the "*Bureau des Longitudes*," in Paris.

It does not appear that in the French Census the age of the party is registered as in England; but *M. Mathieu* has deduced the numbers at each age by approximation, and probably he has arrived very near the truth. I shall assume the correctness of his Table.

The Tables which I beg to submit to the Statistical Society are as follows:—

TABLE I.—Comparative View of the Population of *Great Britain* with that of *France*; showing the numbers living under the age of 15, between 15 and 20, and so on to the end of life.

TABLE II.—Comparative View of the *Male* and *Female* Population of *Great Britain* at the Census of 1851.

TABLE III.—Comparative View of the *Unmarried* Population of *Great Britain* at the Census of 1851.

TABLE IV.—Comparative View of the *Married* Population of *Great Britain* at the Census of 1851.

TABLE V.—Comparative View of the *Widowers and Widows* in the Population of *Great Britain* at the Census of 1851.

N.B.—In the above Tables the per centage, as well as the then existing numbers in each 100,000, is stated opposite each group of ages.

TABLE VI.—Comparative View of the *Male and Female* Population of *Great Britain*, at the Census of 1851, showing the number of the Unmarried, Married, Widowers, and Widows, with the respective per centage and numbers existing of each class in 100,000 of the Population.

TABLE VII.—Comparative View of the then existing *Populations* of *Great Britain and France* at different periods in the present century.

TABLE VIII.—Comparative View of the *Births and Deaths* in *England and Wales*, and in *France*, showing a surplus of Births from the year 1838 to 1854, when in France there was a deficiency of 69,318.

Some of the results which are disclosed by an examination of these Tables, appear to me to be important, and well deserving the attention of the statistical inquirer.

Remarks, by way of Preface, by E. T. SCARGILL.

For the purpose of obtaining a general view of the state of the population at various ages, it will be convenient to take the numbers of persons living. (1.) Under 20 years of age; (2.) Above 20 and under 50; (3.) 50 and upwards. Omitting numbers under 1,000 Table I gives

Population of Great Britain in 1851, and France in 1858.

Great Britain.		Ages.	France.	
Numbers Living. Male and Female.	Per Centages.		Per Centages.	Numbers Living, Male and Female.
9,502,000	45	0—20	39	13,659,000
8,473,000	41	20—50	42	14,552,000
2,984,000	14	50 & upwds.	19	6,649,000
20,959,000	100		100	34,860,000

According to these figures, the proportion of *children and young persons* to Adults is about *one-seventh more* in Great Britain than it is

in France, one inference from which is, that marriages in Great Britain are more fruitful than in France; and another, that the population in Great Britain is in a more rapid state of advance than that in France. The per centage of persons living under the age of 15 is 35 in Great Britain and 30 in France.

From Table II we find that the total number of Men aged from 20 to 50, which may be taken as the total number capable of bearing arms, was 4,063,000 for Great Britain in 1851. The total number of adult males, 20 to 50, in Ireland that year was 1,147,000; making a total of 5,210,000 for the United Kingdom. The French population not being distributed according to sexes, the exact number cannot be arrived at; but as the total number of men and women between the above-mentioned ages is 14,552,000, we may take 7,250,000 as a fair approximation to the truth.

The ratio of the adult males to the corresponding number in France may be therefore taken as being, according to the latest returns,

10,000 to 13,915.

In 1821 the total population of the United Kingdom was 20,983,000, and that of France 30,451,000; if, therefore, the proportions of persons living at various ages were, in 1821, nearly the same as at present, the relation between the adult males of the two countries may be measured by the ratio 20,983 to 30,451, or

10,000 to 14,513.

Another method of comparing the numbers of adult males in the two countries is this—

The total population of the United Kingdom in 1851 was 27,511,000; in 1821, 20,983,000; and the adult males between 20 and 50, in 1851 were 5,210,000; hence, by the Rule of Proportion, the number of adult males between 20 and 50 in 1821 was 3,974,000.

Similarly, the total population of France in 1851 being 35,783,000, and in 1821, 30,451,000; and the number of adult males in 1851 being 7,250,000, the number of adult males in 1821 was 6,170,000.

The ratio of 3,974,000 to 6,170,000 is

10,000 to 15,526,

which shews a greater falling off as regards France than the result of 10,000 to 14,513, obtained by the former hypothesis.

But whatever hypothesis may be adopted, it is clear, that during the thirty years, 1821-51, the relative numbers of Adult Males in the United Kingdom and France have undergone changes *materially in favour* of the United Kingdom. It seems also certain, that during the seven years since 1851, this favourable tendency, as regards the United Kingdom, has become still more marked, not only as concerns the number of adult males now living in the two

countries, but also as concerns the capacities of increase in the respective Total Populations.

Combining the results deduced from Tables III and V, we have the following results relative to the marriageable parts of the population of Great Britain, *i.e.*, bachelors, widowers, spinsters, and widows, between the ages of 20 and 50 :—

Bachelors.....	1,551,000	.....	Spinsters.....	1,563,000
Widowers ...	109,000	.....	Widows	223,000
	<u>1,660,000</u>			<u>1,786,000</u>

showing a surplus of 126,000 marriageable women.

If we go beyond the age of 50 the number of Unmarried Women at each age is considerably greater than that of unmarried men.

Table IV gives us the following figures with regard to the ages of married persons in Great Britain :—

	Men.	Women.
0—20	4,000	26,000
20—50	2,402,000	2,623,000
50 & upwds.	984,000	813,000
	<u>3,390,000</u>	<u>3,462,000</u>

Hence we see that of the whole population of Great Britain, between 20 and 50 years of age, about *three-fifths only are married*.

In reading Table VIII the attention is at once attracted by the fact that in the year 1854 the number of Deaths in France exceeded the births by 69,000. The numbers of *births* do not steadily increase or decrease; in 1838 they were 961,000, in 1854 923,000; the greatest number was 995,000 in 1849, and the smallest 918,000 in 1847; the *deaths* in 1834 were 846,000, and 992,000 in 1854, which last is the greatest number during the 17 years tabulated, the smallest being 754,000 in 1845.

In England and Wales the *births* rise from 463,000 in 1834 to 635,000 in 1855; those in 1847 fell short of those in 1846 and 1848, as did those of 1853 of those in 1852 and 1854. The number of *deaths* rises from 342,000 in 1834 to 425,000 in 1855, though not so steadily as the births; the highest number is 440,000 in 1849.

TABLE I.

Comparative View of the State of the POPULATIONS of GREAT BRITAIN in 1851, and of FRANCE as given by M. Mathieu, Annuaire, 1858, p. 212.

1	2	3	4	5	6
GREAT BRITAIN.—Total 20,959,477. Census 1851.			FRANCE.—Total 34,860,387, as given by M. Mathieu, 1858, p. 212.		
Ages. Males and Females.	Males and Females. Numbers Living at the respective Ages.	Per Centage.	Per Centage.	Males and Females. Numbers Living at the respective Ages.	Ages. Males and Females.
Under 15	7,431,542	35·456	30·165	10,515,539	Under 15
15 to 20	2,070,736	9·880	9·018	3,143,668	15 to 20
20 „ 25	1,960,504	9·354	8·532	2,974,383	20 „ 25
25 „ 30	1,712,438	8·170	7·879	2,746,594	25 „ 30
30 „ 35	1,479,601	7·059	7·233	2,521,420	30 „ 35
35 „ 40	1,262,016	6·021	6·622	2,308,594	35 „ 40
40 „ 45	1,130,131	5·392	6·031	2,102,254	40 „ 45
45 „ 50	927,810	4·426	5·447	1,898,825	45 „ 50
50 „ 55	833,679	3·977	4·835	1,685,681	50 „ 55
55 „ 60	611,653	2·918	4·190	1,460,675	55 „ 60
60 „ 65	563,575	2·689	3·513	1,224,802	60 „ 65
65 „ 70	381,571	1·820	2·748	958,157	65 „ 70
70 „ 75	293,851	1·402	1·914	667,258	70 „ 75
75 „ 80	170,953	·816	1·142	398,034	75 „ 80
80 „ 85	89,004	·425	·516	179,747	80 „ 85
85 „ 90	30,593	·146	·165	57,649	85 „ 90
90 „ 95	7,787	·037	·044	15,200	90 „ 95
95 „ 100	1,714	·008	·005	1,907	95 „ 100
Above 100	319	·001	....	....	Above 100
	20,959,477	100·	100·	34,860,387	

TABLE II.

*Comparative View of the Male and Female POPULATION of GREAT BRITAIN.
Census 1851.*

1	2	3	4	5	6
Males.—Total 10,223,558.			Females.—Total 10,735,919.		
Ages. (Males.)	Males. Numbers Living at the respective Ages.	Per Centage.	Per Centage.	Females. Numbers Living at the respective Ages.	Ages. (Females.)
Under 15	3,739,324	36·575	34·391	3,692,218	Under 15
15 to 20	1,025,419	10·030	9·737	1,045,317	15 to 20
20 „ 25	930,048	9·097	9·598	1,030,456	20 „ 25
25 „ 30	808,705	7·910	8·417	903,733	25 „ 30
30 „ 35	710,890	6·953	7·160	768,711	30 „ 35
35 „ 40	612,374	5·989	6·051	649,642	35 „ 40
40 „ 45	548,694	5·366	5·416	581,437	40 „ 45
45 „ 50	452,542	4·426	4·427	475,268	45 „ 50
50 „ 55	402,533	3·937	4·016	431,146	50 „ 55
55 „ 60	293,416	2·870	2·964	318,237	55 „ 60
60 „ 65	262,461	2·567	2·804	301,114	60 „ 65
65 „ 70	174,935	1·710	1·925	206,636	65 „ 70
70 „ 75	133,187	1·302	1·496	160,664	70 „ 75
75 „ 80	75,474	·738	·889	95,479	75 „ 80
80 „ 85	37,648	·368	·478	51,356	80 „ 85
85 „ 90	12,390	·121	·169	18,203	85 „ 90
90 „ 95	2,823	·028	·046	4,964	90 „ 95
95 „ 100	584	·006	·010	1,130	95 „ 100
Above 100	111	·000	·001	208	Above 100
	10,223,558	100·	100·	10,735,919	

TABLE III.

*Comparative View of the UNMARRIED POPULATION of GREAT BRITAIN.
Census 1851.*

1	2	3	4	5	6
Males.—Unmarried. Total 6,449,318.			Females.—Unmarried. Total 6,478,805.		
Ages. (Males.)	Males, Unmarried. Numbers Living at the respective Ages.	Per Centage.	Per Centage.	Females, Unmarried. Numbers Living at the respective Ages.	Ages. (Females.)
Under 15	3,739,324	57·980	56·990	3,692,218	Under 15
15 to 20	1,020,878	15·829	15·734	1,019,393	15 to 20
20 „ 25	746,143	11·569	11·081	717,955	20 „ 25
25 „ 30	364,278	5·648	5·685	368,301	25 „ 30
30 „ 35	189,675	2·941	3·062	198,375	30 „ 35
35 „ 40	113,816	1·764	1·892	122,594	35 „ 40
40 „ 45	80,933	1·254	1·401	90,760	40 „ 45
45 „ 50	56,485	·875	1·007	65,241	45 „ 50
50 „ 55	44,947	·697	·881	57,081	50 „ 55
55 „ 60	30,435	·472	·620	40,213	55 „ 60
60 „ 65	25,789	·400	·607	39,331	60 „ 65
65 „ 70	15,403	·239	·394	25,530	65 „ 70
70 „ 75	11,446	·177	·315	20,441	70 „ 75
75 „ 80	5,969	·092	·182	11,795	75 „ 80
80 „ 85	2,567	·040	·102	6,605	80 „ 85
85 „ 90	916	·014	·033	2,173	85 „ 90
90 „ 95	228	·003	·009	624	90 „ 95
95 „ 100	72	·001	·002	133	95 „ 100
Above 100	14	·000	·000	42	Above 100
	6,449,318	100·	100·	6,478,805	

TABLE IV.

*Comparative View of the MARRIED POPULATION of GREAT BRITAIN.
Census 1851.*

1	2	3	4	5	6
Males.—Married. Total 3,391,271.			Females.—Married. Total 3,461,524.		
Ages. (Males.)	Males, Married. Numbers Living at the respective Ages.	Per Centage.	Per Centage.	Females, Married. Numbers Living at the respective Ages.	Ages. (Females.)
Under 15	....	....	....	....	Under 15
15 to 20	4,460	*131	*739	25,607	15 to 20
20 „ 25	181,443	5*350	8*880	307,395	20 „ 25
25 „ 30	435,004	12*827	14*968	518,127	25 „ 30
30 „ 35	504,884	14*887	15*557	638,519	30 „ 35
35 „ 40	477,264	14*073	14*005	484,812	35 „ 40
40 „ 45	439,362	12*955	12*434	430,418	40 „ 45
45 „ 50	364,679	10*753	9*925	343,565	45 „ 50
50 „ 55	318,297	9*385	8*321	288,042	50 „ 55
55 „ 60	225,695	6*655	5*691	197,015	55 „ 60
60 „ 65	189,050	5*575	4*488	155,366	60 „ 65
65 „ 70	116,752	3*442	2*579	89,278	65 „ 70
70 „ 75	76,982	2*270	1*500	51,947	70 „ 75
75 „ 80	37,444	1*104	*643	22,276	75 „ 80
80 „ 85	15,169	*447	*210	7,265	80 „ 85
85 „ 90	3,875	*114	*045	1,568	85 „ 90
90 „ 95	728	*021	*007	268	90 „ 95
95 „ 100	153	*004	*001	51	95 „ 100
Above 100	30	*000	*000	5	Above 100
	3,391,271	100*	100*	3,461,524	

TABLE V.

*Comparative View of the WIDOWERS and WIDOWS in the Population of
GREAT BRITAIN. Census 1851.*

1	2	3	4	5	6
Males.—Widowers. Total 382,969.			Females.—Widows. Total 795,590.		
Ages. (Males.)	Males, Widowers. Numbers Living at the respective Ages.	Per Centage.	Per Centage.	Females, Widows. Numbers Living at the respective Ages.	Ages. (Females.)
Under 15	....	....	....	....	Under 15
15 to 20	81	•021	•039	317	15 to 20
20 „ 25	2,462	•643	•642	5,106	20 „ 25
25 „ 30	9,423	2•460	2•175	17,305	25 „ 30
30 „ 35	16,331	4•264	3•999	31,817	30 „ 35
35 „ 40	21,294	5•560	5•309	42,236	35 „ 40
40 „ 45	28,399	7•415	7•574	60,259	40 „ 45
45 „ 50	31,378	8•193	8•354	66,462	45 „ 50
50 „ 55	39,289	10•259	10•812	86,023	50 „ 55
55 „ 60	37,286	9•736	10•182	81,009	55 „ 60
60 „ 65	47,622	12•435	13•375	106,417	60 „ 65
65 „ 70	42,780	11•170	11•452	91,828	65 „ 70
70 „ 75	44,759	11•687	11•095	88,276	70 „ 75
75 „ 80	32,061	8•371	7•718	61,408	75 „ 80
80 „ 85	19,912	5•199	4•712	37,486	80 „ 85
85 „ 90	7,599	1•984	1•817	14,462	85 „ 90
90 „ 95	1,867	•487	•512	4,072	90 „ 95
95 „ 100	359	•094	•119	946	95 „ 100
Above 100	67	•017	•020	161	Above 100
	382,969	100•	100•	795,590	

TABLE VI.
General Comparative View of the POPULATION of GREAT BRITAIN.
Census 1851.

1	2	3	4	5	6
Males.			Females.		
	Population, Census 1851.	Per Centage.	Per Centage.	Population, Census 1851.	
Unmarried	6,449,318	30·770	30·911	6,478,805	Unmarried
Married	3,391,271	16·180	16·515	3,461,524	Married
Widowers	382,969	1·827	3·795	795,590	Widows
Total Males....	10,223,558	48·777	51·221	10,735,919	Total Females
Total Females	10,735,919	51·223	48·779	10,223,558	Total Males
	20,959,477	100·000	100·000	20,959,477	
N.B.—The proportion of Males to Fem. 95·227 Males to 100 Females.			N.B.—The proportion of Fem. to Males. 104·984 Females to 100 Males; or 105 to 100.		

TABLE VII.
Comparative View of the then existing POPULATIONS of GREAT BRITAIN and
FRANCE at different Periods in the present Century.

1	2	3	4
Great Britain.		France.	
In the Year	Total Males and Females, per Census Returns.	In the Year	Total Males and Females, as stated by M. Mathieu.*
1801.....	10,578,956	1820	30,451,187
1811	12,050,120	1831	32,560,934
1821.....	14,181,265	1836	33,540,910
1831.....	16,364,893	1841	34,230,178
1841.....	18,658,372	1846	35,401,761
1851.....	20,959,477*	1851.....	35,783,059
		1856.....	36,039,364
The increase in Great Britain in 40 years, from 1811 to 1851, is 8,909,357, or nearly 74 per cent. on the population of 1811.		The increase in France in 36 years, from 1820 to 1856, is 5,588,177, or nearly 18½ per cent. on the population of 1820.	
And in 30 years, from 1821 to 1851, the increase is 6,778,212, or 47¾ per cent. on the population of 1821.			
* The population of Great Britain in 1851 was } 20,959,477 which included Scotland, } amounting to } 2,888,742		* Col. 4 is shown in "Annuaire pour l'an 1858, publié par le Bureau des Longitudes." p. 178.	
Therefore England and Wales with the Islands, } amounted to } 18,070,735			

TABLE VIII.
*Comparative View of BIRTHS and DEATHS in ENGLAND AND WALES and
 FRANCE.*

1	2	3	4	5	6	7
England and Wales.				France.		
Year.	Births. Male and Female.	Deaths. Male and Female.	Excess of Births.	Births. Male and Female.	Deaths. Male and Female.	Excess of Births.
1838....	463,787	342,760	121,027	961,476	846,199	115,277
1839...	492,574	338,984	153,590	957,740	780,600	177,140
1840....	502,303	359,687	142,616	952,318	816,486	135,832
1841....	512,158	343,847	168,311	976,929	804,762	172,167
1842....	517,739	349,519	168,220	982,896	836,152	146,744
1843...	527,325	346,445	180,880	983,107	811,435	171,672
1844....	540,763	356,933	183,830	967,324	776,526	190,798
1845....	543,521	349,366	194,155	992,033	754,701	237,332
1846....	572,625	390,315	182,310	983,473	831,498	151,975
1847....	539,965	423,304	116,661	918,581	856,026	62,555
1848....	563,059	399,833	163,226	948,748	844,158	104,590
1849....	578,159	440,839	137,320	995,466	982,008	13,458
1850...	593,422	368,995	224,427	962,972	775,653	187,319
1851...	615,865	395,396	220,469	979,907	817,449	162,458
1852...	624,012	407,135	216,877	965,080	810,695	154,385
1853....	612,391	421,097	191,294	936,967	795,596	141,371
1854...	634,405	437,905	196,500	923,461	992,779	69,318*
1855...	635,043	425,703	209,340			
			In England and Wales.	In France.		
BIRTHS—						
Proportion of Boys to Girls...			17 Boys to 16·236 Girls	17 Boys to 16·002 Girls		
" of Legitimate to			14·663 to 1	12·928 to 1		
Illegitimate Children			1 Birth in 29 inhabitants	1 Birth in 34·42 inhabts.		
" of Births to Popln.						
DEATHS—						
Proportion of Males to Fem.			71 Males to 69 Females	71 Males to 70·074 Fem.		
" of Deaths to Popn.			1 Death in 45 inhabitants	1 Death in 40·75 inhbtts.		

* More deaths than births.